

REMARKS

Claims 18-43 are pending in the application.

The Official Action indicated that a response including an explanation about the modifications and the expected effects of the cited US 2,749,247 "will be fully considered in the next office action". Accordingly, Applicant respectfully requests that the following remarks be fully considered and entered.

Claims 18-25, 28, 29, 31-38 and 41 were rejected under 35 USC §102(b) as being anticipated by AGGARWAL, et al. U.S. Patent No. 2,749,247 ("AGGARWAL"). Claims 30 and 42 were rejected under 35 USC §103(a) as allegedly being unpatentable over AGGARWAL in view of BARNES et al ("BARNES"). These rejections are respectfully traversed.

The position maintained by the Official Action is that the Tung oil employed by AGGARWAL does not appear to materially affect the characteristics of the invention, the dried coating would be essentially free of organic solvent, and the properties of the claimed invention would be expected to be the same as those of the AGGARWAL composition. In support of this position the Official Action cites to Example 4 of the reference.

However, AGGARWAL, particularly Example 4, fails to disclose or suggest the claimed invention for the reasons outlined below:

I. Differences between the reproduced test in the  
declaration filed April 14, 2008 and example 4 of AGGARWAL.

I.1. Nature of the products

For safety and health reasons, toluene was replaced by benzene and cobalt linoleate by cobalt carboxylate. In the declaration, it is specified that these two products are well-known equivalents.

However, the Official Action considered that the declaration fails to describe in what manner they are considered equivalent and fails to justify the differences in amount employed.

The Official Action requested that the equivalence between these products be explained.

a. AGGARWAL expressly mentions that the varnish is brought to the proper consistency by the addition of one or more organic solvents having boiling points between 40° to 125°C such as benzene or toluene (column 2, lines 30- 31). The boiling point of benzene is 80°C and the boiling point of toluene is 110°C.

The Examples of AGGARWAL show that one can choose only benzene (example 1, 3 and 5) or a mixture of benzene and toluene (example 2, 4). Consequently, according to AGGARWAL, benzene-toluene mixtures, benzene or toluene can clearly indifferently be

used. So, the substitution of benzene by toluene is not contrary to the teaching of AGGARWAL.

Moreover, the proportions between benzene and toluene are not specified in AGGARWAL and in particular in example 4. Consequently, without this indication, it is impossible to reproduce example 4 of AGGARWAL.

Therefore, for health reasons (considered by the Official Action as "prudent and reasonable"), benzene is substituted by toluene.

Furthermore, Applicant respectfully notes that in the field of paints, inks and varnishes, toluene replaces in general benzene as solvent.

These two products are well-known equivalents.

b. Cobalt linoleate is known to be a very toxic product. When the Applicant of the present invention requested this product from a supplier, the supplier suggested using "OctaSoligen® Cobalt" which is a cobalt octanoate. The drying function of cobalt octanoates is well-known and disclosed in the literature.

Moreover, AGGARWAL expressly mentions that any soluble cobalt drier is suitable (column 2, lines 25 - 26). Consequently, according to AGGARWAL, cobalt driers are equivalent. Therefore, it is not contrary to AGGARWAL to replace cobalt linoleate by cobalt carboxylate.

### 1.2. Quantities

In the declaration, 12.5 g of cobalt carboxylate seems to be added whereas in example 4, 1.5 g of driers has been added.

However, the Applicant forgot to specify that he used a solution of cobalt carboxylate, the said solution containing 15% in weight of pure Cobalt carboxylate. The real quantity of cobalt carboxylate added is of  $12.5 \times 0.15 = 1.5$  g.

Consequently, the quantity of drier used in the test of the declaration is equivalent to the quantity of drier used in example 4 of AGGARWAL.

287.5 g of toluene has been added in the test of the declaration against 300 cc of the mixture benzene-toluene in the example 4 of AGGARWAL. This difference is not significant.

### 1.3. Method of preparation

The Official Action considered that the methods of preparation are different, The linseed oil is preheated in the declaration at 270°C against 200°C in example 4 of AGGARWAL.

It is a transcription error, the linseed oil and the resin have been separately heated at 200°C before being mixed. The linseed oil has not been heated at 270°C.

### 1.4. Conclusion

The Official Action considered that the failure to observe formation of the thread disclosed as signally the

endpoints of two steps are construed as supporting a finding that the instant declaration fails to adequately compare the invention of the instant claims to that of the closest prior art.

However, the precisions brought confirm that example 4 was accurately reproduced in the declaration. In fact, the methods of preparation are identical (same temperature). The substitution of solvent and drier are justified by AGGARWAL itself. The quantities of drier are the same.

Therefore, Applicant maintains that it is impossible to obtain a thread as disclosed in AGGARWAL. The varnish of this document cannot be reproduced.

## II. Novelty and meaning of the term "binder"

a. The Official Action considered that the term binder does not exclude the hardened composition of AGGARWAL. According to the Official Action, the term "binder" corresponds to:

- a unhardened material intended to be mixed with an aggregate,
- the hardened binder that comprises the matrix of a composite including the aggregate.

Therefore, the Official Action submitted the same arguments as those supported in the preceding notification in order to justify the lack of novelty of the invention.

b. Applicant respectfully disagrees with the opinion of Official Action.

The binder of the invention defined by claim 1 does not comprise any solvent. This is clearly expressed by (i)the expressions "consisting essentially of" and "consists of" and (ii)the required values of penetrability, i.e., solvents would result in different values. These two characteristics clearly exclude from the scope of claim 1 the varnishes of AGGARWAL.

In fact, the unhardened varnishes disclosed by AGGARWAL have significant proportions of solvent. Such proportions of solvent prevent the varnish to have the required values of penetrability. These varnishes are too fluid. This fact was clearly shown in the provided declaration. Accordingly the unhardened varnish of AGGARWAL does not correspond to the unhardened binder of the invention. Therefore, AGGARWAL does not disclose the unhardened binder of the invention.

AGGARWAL only discloses painting films as dry composition. Consequently, AGGARWAL does not disclose the hardened binder of the invention but only discloses dried films of painting. The binder of the invention once hardened will not give a painting film having a thickness ranging between 0.03 and 0.07 mm.

The composition of unhardened varnish of AGGARWAL does not comprise the same components as the binder of the invention because this composition of varnish comprises large proportions

of solvent. These proportions of solvent clearly render the varnish of AGGARWAL different from the unhardened binder of the invention. This difference concerning the unhardened products involves a difference on the hardened products. In fact, the lone hardened product obtained according to AGGARWAL is a thin film whereas with the binders of the invention (which do not comprise solvent) such thin films can not be obtained.

Consequently, the absence or the presence of solvent in the unhardened product confers specific characteristics to the hardened product.

The recited terms "consisting essentially of" and "consist of", in combination with specifying the penetrability, thus, excludes hardened and unhardened varnishes. The proportions of solvent in the varnishes of AGGARWAL render them unsuitable for the applications of the invention.

c. Finally, the method of preparation of varnishes disclosed in AGGARWAL is very different from the method of preparation of the binder of the invention. According to AGGARWAL, the components are heated for a long time and at high temperature (between 175°C and 280°C) until a thread is obtained. According to the claimed invention, the method of preparation of the binder is a simple mixture at a sufficient temperature to obtain a homogeneous mixture.

The varnish prepared according to AGGARWAL is too hard to be used as binder for coating materials for road application after hardening.

The binder can be recovered after hardening only with solvents. In this case, the claimed invention is different from AGGARWAL because the binder of the claimed invention does not comprise solvent. In fact, the realization of a bituminous mix with the hardened binder of AGGARWAL requires the use of solvent which would temporarily ensure a sufficiently low value of viscosity to ensure the coating of aggregates.

If Applicant followed the reasoning according to which the recovered varnish with solvent is used to bind aggregates and carry out a mixture of this recovered varnish and aggregates, the mixture would not have the required properties for preparing bituminous mix. The bituminous mix would be too soft at early age and too hard once the solvent evaporated. Consequently, the properties of recovered varnishes would not be not suitable to bind aggregates for roads application.

Therefore, the varnish of AGGARWAL does not anticipate the binder of the invention.

Moreover, BARNES fails to remedy the shortcomings of AGGARWAL for reference purposes. As pointed out in the previously filed amendment, BARNES merely discloses that cobalt and manganese octanoate are top driers, barium and zirconium



octanoate are through driers, and that some metallic octanoates are oxidative polymerization catalyst.

Therefore, in light of the above discussion, AGGARWAL, alone or in combination with BARNES, also fails to render obvious the claimed invention, and withdrawal of the rejections are respectfully requested.

In view of the foregoing remarks, this application is believed to be in condition for allowance at the time of the next Official Action. Allowance and passage to issue on that basis is respectfully requested.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

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